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# Tenth progress report on the enterprise resource planning project

## Report of the Advisory Committee on Administrative and Budgetary Questions

## I. Introduction

1. The Advisory Committee on Administrative and Budgetary Questions has considered the tenth progress report of the Secretary-General on the enterprise resource planning project (A/73/389), submitted pursuant to General Assembly resolution 64/243, in which the Assembly requested the Secretary-General to continue to ensure that the Assembly is kept informed, on an annual basis, of the progress regarding the enterprise resource planning project, Umoja.[1] The Committee also had before it the seventh annual progress report of the Board of Auditors on the implementation of the United Nations enterprise resource planning system (A/73/169), submitted pursuant to General Assembly resolution 66/246.

2. During its consideration of the above-mentioned reports, the Advisory Committee met with representatives of the Secretary-General, who provided additional information and clarification, concluding with written responses received on 14 November 2018. The Committee also had an exchange with the members of the Audit Operations Committee.

[1] Meaning "unity" in Swahili.

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## II. Seventh annual progress report of the Board of Auditors on the implementation of the United Nations enterprise resource planning project

3. The Board of Auditors indicates that its seventh annual progress report has been prepared on the basis of an audit conducted from 29 January to 16 March 2018 and covers mainly matters relating to project governance, estimates of benefit realization and the total cost of ownership of the project, and progress in the deployment of the solution and mainstreaming of the application, as well as the resolution of user problems and the management of change requests. The Board states that its report also contains the results of the information technology audit of Umoja in the areas of user access provisioning and controls for the segregation of duties, as well as application controls in selected areas such as uncertified sick leave and negative leave balances and data quality issues in master data tables related to material and inventory. The Advisory Committee's comments on the Board's observations and recommendations are reflected in the context of its discussion on each subject, as relevant, in the paragraphs below. **The Committee commends the quality of the Board's report, and also welcomes the inclusion of an information technology audit of Umoja. The Committee expects the recommendations of the Board of Auditors to be fully implemented in a timely manner.**

## III. Tenth progress report of the Secretary-General on the enterprise resource planning project

4. The Secretary-General indicates that his tenth progress report on the status of the implementation of Umoja provides an update on progress since the issuance of his ninth progress report, in September 2017 (A/72/397). Key issues covered in the tenth progress report include: (a) project management, governance and oversight; (b) project status; (c) Umoja Extension 2 (UE2) projects; (d) change management; (e) the Umoja business case; (f) reorganization of functions; and (g) resource requirements for 2018–2019.

### A. Project status

5. The tenth progress report provides an overview of project milestones and achievements during the reporting period, which include, among others: (a) the deployment of phase 1 of the supply chain management solution, the Umoja travel solution and the real estate space management solution; (b) the migration to Umoja of all staff administered by the United Nations Development Programme (UNDP) in 45 United Nations information centres of the Department of Public Information and the transition of all field-based international staff of the Department of Safety and Security on UNDP appointments to Secretariat appointments and their migration to Umoja; (c) strengthening of business intelligence capability; (d) training of end-users, local process experts and expert trainers to sustain business readiness; (e) multiple Umoja software upgrades; and (f) installation of new SAP products and replacement of hardware. The Secretary-General further states that the number of Umoja-related incidents has declined, that Umoja performance data gathered over two years was monitored and analysed to improve speed of workflows and ensure sustained realization of benefits, and that tools to better manage and control change requests were introduced. **The Advisory Committee notes the wide range of activities implemented during the reporting period and welcomes the progress made.**

## B. Evolution of the costs and timeline of the Umoja project

6. Upon request, the Board of Auditors provided the Advisory Committee with the following tables showing the evolution of the projected timeline and projected costs/requirements of the project since 2008, as reflected in previous Umoja project progress reports.

**Evolution of the projected timeline for completion of the project**

| *Expected project completion date* | *Document* |
|---|---|
| 2012 (original date) | A/62/510/Rev.1 |
| 2013 | A/64/380 (First progress report of the Secretary-General) |
| 2015 | A/66/381 (Third progress report of the Secretary-General) |
| 2018 | A/67/360 (Fourth progress report of the Secretary-General) |

**Evolution of projected expenditure/requirements of the project**

| *Period* | *Projected expenditure* |
|---|---|
| Original projected expenditure in 2007 | $248.3 million |
| Actual project expenditure for the period from 2008 to 2015 | $367.19 million |
| Revised requirement for 2016–2017 | $98.97 million |
| Projected requirement for 2018–2019 | $77.8 million |
| **Projected total requirement for the Umoja project up to 2019** | **$543.96 million** |

7. The Advisory Committee recalls that, in his ninth progress report, the Secretary-General proposed further extending the timeline for the full deployment of UE2 into 2019 (see para. 9 below). The Committee notes that the actual duration of the project, originally planned to be implemented over a four and a quarter year period, from the third quarter of 2008 to the end of 2012 (A/62/510/Rev.1, para. 40), is now expected to extend over more than 11 years.

## C. Umoja Extension 2 projects

8. In his tenth progress report, the Secretary-General indicates that UE2 covers 133 of the total number of 321 Umoja processes (approximately 41 per cent). The processes have been grouped under a series of projects for: (a) strategic planning, budget formulation and performance management; (b) fundraising and donor relationship management; (c) implementing partner management; (d) supply chain management; (e) reimbursements to troop- and police-contributing countries; and (f) conference and event management. The report provides an update on the implementation of each UE2 project, including details on the functionalities covered and technical components underpinning the solution being implemented, as well as updates on the phases of the project, the related preparatory activities and planned deployments. Annexes I and II to the report provide a summary of the timeline of Umoja deployments for the periods from 2013 to 2016 and from 2017 to 2019,

respectively. The supplementary information accompanying the report provides further technical and financial details on each project.

*Umoja Extension 2 deployment timeline*

9. Annex II to the tenth progress report provides a timeline of the deployment of UE2 projects for the period 2017–2019. The Advisory Committee recalls that the General Assembly, in its resolution 67/246, requested the Secretary-General to ensure full implementation of the revised Umoja deployment strategy presented in the fourth progress report (A/67/360), and approved the complete implementation of the full scope of the project by December 2018 at the latest. Subsequently, in his eighth progress report (A/71/390), the Secretary-General outlined the workplan for 2016–2018, which related mostly to UE2 projects, and indicated that the resource proposals for 2016–2017 and 2018–2019 would include a period of stabilization of UE2 in 2019. The Committee further recalls that, in his ninth progress report, the Secretary-General indicated that the design, build and test activities for each of the UE2 projects would be completed in 2018, and that the solutions developed for supply chain management, fundraising and implementing partner management were likely to be fully deployed only in 2019, with most of the UE2 projects being in an extensive support phase in 2019 and being deployed mostly in 2019, with some remaining deployments and stabilization of the system in 2019. In his tenth progress report, the Secretary-General indicates that all UE2 solutions will be fully deployed by the end of 2019, but that the demand planning and supply network planning solution may not be fully deployed by the end of 2019. The Committee recalls that the General Assembly, in section XXI, paragraphs 8 and 23 of its resolution 72/262 A, requested the Secretary-General to continue to implement the project within the approved timeline and budget, and approved resource requirements of the project until 31 December 2019 in the amount of $62,062,600.

10. **As shown in paragraphs 6 and 7 above, the project has a long history of delays and cost escalation. The Advisory Committee is concerned that the project timeline continues to be extended and project costs continue to grow. The Committee trusts that the Secretary-General will provide to the General Assembly at the time of its consideration of the tenth progress report comprehensive information on the plan for the deployment of the full scope of each UE2 project, including the supply chain management project, with a detailed update on the risks to the project schedule and scope and corresponding risk mitigation measures envisaged (see paras. 27–29 below). The Committee recommends that the Assembly request the Secretary-General to take all necessary measures to ensure that the full scope of the project is completely implemented without further delay and cost escalation by the end of 2019. The Committee further recommends that the Assembly request the Secretary-General to provide to the Assembly at the time of its consideration of the proposed programme budget for 2020 a detailed update on progress towards project finalization by the end of 2019, including an update on project expenditures.**

## D. Training

11. In his tenth progress report, the Secretary-General indicates that the training strategy has been revised to focus on continuous self-learning and easily accessible, self-contained and modularized training courses and learning materials, rather than lengthy in-classroom training. A new online learning platform, "iLearn Umoja", which was being launched with a web portal in September 2018, will provide a catalogue of all courses recommended for each Umoja role and enable collaboration

with communities of experts to share information through open online forums. The Secretary-General further indicates that the existing training materials of Foundation and Umoja Extension 1 will be gradually converted and migrated to iLearn Umoja. Upon enquiry, the Advisory Committee was informed that iLearn Umoja had been launched as planned. **The Committee trusts that the Secretary-General will provide further information on the cost-efficiency and effectiveness of the revised training strategy and the new iLearn Umoja platform in his next progress report.**

## E. Umoja business case

### 1. Benefits

12. Paragraphs 101–111 of the tenth progress report of the Secretary-General relate to Umoja benefits. In its resolution 72/262 A, the General Assembly requested the Board of Auditors, through the Advisory Committee, to undertake a detailed verification exercise, with a view to validating a statement of quantifiable Umoja-related benefits, and to report thereon in its seventh annual progress report. The Board indicated that it had requested information and documentation from all designated Umoja process owners[2] who were accountable for the statement of benefit realization associated with their processes as presented under the peacekeeping budgets since 2013/14 and under the programme budgets since 2014–2015. The Board expressed its appreciation for the efforts made by process owners in identifying the business processes and building up a basis for the realization of quantitative benefits from year to year. After verification of the documentation, the Board indicated that the estimates of the quantum of benefits realized on account of post reduction were assessed in audit and found to be in order.

13. However, the Board observed that it was not in a position to validate the non-post-reduction estimates for peacekeeping for 2018/19 in two specific instances relating to the supply chain and information technology streams. Upon request for clarification regarding those two instances, the Advisory Committee was informed that the supply chain management phase 2 solution had not been finalized when the benefit figures were being calculated in 2017, and it was decided by the Department of Field Support to assume the total benefit as $44.2 million based on the benefits range produced for the Umoja business case in 2010. Therefore, the estimated benefit of $44.2 million represented a top-down driven figure, (A/73/169, para. 31 (a)), and not a bottom-up calculated figure, which could be feasible only after deployment, based on the post-deployment experience, as was done in all other areas. With regard to the peacekeeping budget for 2018/19, the Committee was informed that an aggregate amount of $33 million in quantitative benefits had been reported in the Secretary General's ninth progress report, including $23.56 million for all pillars other than information and communications technology (ICT) and an amount of $9.2 million for ICT benefits, based on the assumption that benefits related to the decommissioning of applications would be realized mostly in 2018/19 (ibid., para. 31 (b)).

14. The Board also observed that there was scope for improvement in maintaining documentation and preserving institutional memory for the overall process of benefit realization, and recommended that the Administration identify a coordinating division or unit as the primary process owner of benefit realization and develop a Umoja

[2] Heads of the Office of Central Support Services, the Office of Information and Communications Technology, the Office of Human Resources Management, the Office of Programme Planning, Budget and Accounts, the Department for General Assembly and Conference Management and the Logistics Support Division of the Department of Field Support.

benefit realization plan with an emphasis on improvements resulting from Umoja-based business processes and monitoring of the processes to leverage further benefit realization.

15. In his tenth progress report, the Secretary-General indicates that the Business Transformation and Accountability Division of the Department of Management Strategy, Policy and Compliance will be designated as the coordinating unit responsible for: (a) monitoring the process of benefit realization; (b) engaging stakeholders from the various units and divisions; and (c) continuous monitoring. He further indicates that a Umoja benefit realization plan is being developed, taking into consideration the most recent observations and recommendations of the Board of Auditors, and will serve as a centralized source of information.

16. The Advisory Committee shares the Board's view that it is important to preserve institutional memory and clearly document the assumptions underlying the computation of realization of benefits reported to Member States because they may need to be revisited in the future to ensure continued validity. **The Committee reiterates its view that there is a need to establish a clear and transparent record of the qualitative and quantitative Umoja benefits realized, including the impact on the staffing and resource requirements of individual offices and departments. The Committee also reiterates that the Umoja business case should reflect actual efficiencies and benefits achieved through the implementation of the solution rather than artificial budget reduction targets (A/72/7/Add.31, paras. 28–29). The Committee recommends that the General Assembly request the Secretary-General to ensure that a benefits realization plan is developed and that benefits reported to Member States are documented accurately, including the assumptions and processes underlying the benefit process, and to address this issue as a matter of priority.**

17. **The Advisory Committee further recommends that the General Assembly request the Secretary-General to ensure that a detailed benefits realization plan is established in advance for post- and non-post-related resources for all functional areas, including the supply chain management and ICT processes. The Committee intends to revert to this matter in the context of its upcoming consideration of the proposals of the Secretary-General for the 2019/20 proposed peacekeeping budgets and the proposed programme budget for 2020.**

### 2. Total cost of ownership

18. The Advisory Committee recalls that, in his ninth progress report, the Secretary-General presented for the first time an estimate of the total cost of ownership of Umoja, consisting of: (a) the direct costs of the project; (b) the indirect costs of the project; (c) training costs, including the time of users; and (d) the maintenance costs of the system for a 15-year period, from 2016 to 2030 (see A/72/397, table 6). In the tenth progress report, information on the total cost of ownership has been updated to reflect the observations of the Board of Auditors regarding: (a) the likelihood of continuous improvements after 2019 that might involve further indirect costs; (b) the inclusion of training costs from 2020 onwards; and (c) the fact that the estimate of annual maintenance costs from 2020 onwards would change because of the need to acquire new software licenses as usage increased over time (A/73/389, paras. 115–118). The total cost of ownership has been revised upwards from $1,402,145,273 in 2017 to $1,414,225,429 in 2018. Further details on the underlying data used to estimate the various cost components of the total cost of ownership are provided in the supplementary information accompanying the tenth progress report

of the Secretary-General, including: (a) indirect costs[3] of Umoja deployment, with a breakdown by number of staff and number of person months; (b) travel and training costs and indirect training costs; and (c) maintenance costs. **The Committee notes the growth in the total cost of ownership. The Committee recommends that the General Assembly request the Secretary-General to continue to include in future progress reports updated and refined information on the total cost of ownership, including indirect costs.**

19. The Advisory Committee was informed that the Umoja maintenance costs included requirements for personnel, hardware, software licenses and support and that the projected maintenance costs for the period 2020–2030 were derived by assuming a cost of $48 million per annum for 11 years for a total of $528,000,000, as projected in the report of the Secretary-General on the status of implementation of the information and communications technology strategy for the United Nations (A/71/400, para. 106; see also A/72/397). **As the project nears its completion date, the Committee is of the view that there is a need to provide the General Assembly with more detailed information on the ongoing maintenance requirements of Umoja after the full deployment of UE2 projects by the end of 2019 (see para. 26 below).**

20. With regard to requirements for software, the Advisory Committee was informed that the Umoja project continued to budget and pay for all new software, including the first year of annual maintenance, which was usually paid along with the purchase price in line with standard business practice. The Committee was also informed that software vendors charged an annual maintenance fee, which included free upgrades and resolution of software defects. The annual maintenance fees depended on the modules used and functionality deployed. Software vendors, including SAP (the provider of the Umoja enterprise resource planning software), used different licensing metrics for different modules, with wide variations in costs. The licensing metrics applied could be based on elements such as the number of users, the budget of the organization, the number of central processing units in the servers hosting the software or the number of documents produced. The Committee was further informed that the implementation of enterprise resource planning by the Secretariat used a large number of modules and had already been acknowledged by SAP as one of the most complex among its customer base, which would grow even more complex with the roll-out of UE2. **The Committee trusts that the Secretary-General will fully leverage the purchasing decisions of the United Nations to secure volume discounts and the most favourable terms for the required software licences in a timely manner. The Committee further encourages the Secretary-General to pursue efforts to intensify collaboration with United Nations system entities in the area of enterprise resource planning support, with a view to strengthening the negotiating position with providers of enterprise resource planning software (A/68/344, paras. 108–123).**

21. Annex III to the tenth progress report provides the direct project expenditures of the project by year, distinguishing between staff and non-staff costs, with details on the related outputs. The supplementary information accompanying the report provides a further breakdown of costs by category of expenditure.

[3] Indirect costs relate to costs incurred by implementing departments and offices to facilitate operational readiness, including activities such as data cleansing and enrichment, user testing and deployment coordination (A/72/7/Add.31, paras. 35–40).

## F. Reorganization of functions

22. The tenth progress report provides information on the actions taken in response to the General Assembly's request in section XXI, paragraph 16, of its resolution 72/262 A, that the Secretary-General strengthen in-house expertise, expedite knowledge transfer from contractors and ensure knowledge retention. In the report it is stated that the project has been organizing specialized training for its staff since 2016 to ensure institutional capacity to support Umoja, and that the investment in training has obviated the need for a systems integrator for UE2 solutions and accelerated knowledge transfer (A/73/389, paras. 120 and 134). Upon enquiry, the Advisory Committee was informed that the UE2 solution was being developed and deployed without a systems integrator, using internal expertise complemented by expert assistance from the software vendor if needed, thereby reducing the costs of developing the UE2 solution and eliminating the need for a time-consuming and expensive transfer of knowledge and expertise later.

23. The Advisory Committee recalls that it has consistently stressed, since the early phases of the project, the need to ensure the transfer of knowledge from consultants to programme and project staff, develop in-house expertise on the enterprise resource planning software, and build institutional knowledge and internal capacity for managing and supporting the Umoja solution in order to reduce the Organization's reliance on consultants and contractual services, which represent a large proportion of the project costs. **The Committee welcomes the progress achieved towards ensuring self-sufficiency to develop the UE2 solution and supporting Umoja. The Committee also stresses the need to put into place cost-effective mechanisms to develop internal capacities and to keep up with technology changes over the long term.**

24. For 2019, the Secretary-General proposes: (a) the abolishment of 11 posts, comprising 4 P-4, 4 P-3 and 3 General Service (Other level) posts, in areas in which resources can be drawn down by eliminating or redistributing work; and (b) the establishment of 11 new posts, comprising 2 P-4, 5 P-3, 1 P-2 and 3 General Service (Principal level) posts, to ensure that suitable capacity can be created to build and sustain the new functions and technologies being introduced, as well as to adjust the capacity for existing functions. Further information on the posts proposed for abolishment and establishment are provided in paragraphs 123 to 126 of the report.

25. Upon enquiry, the Advisory Committee was informed that the project was continually refining the organizational structure of the Umoja team based on the evolving needs for skills, especially relating to the new technologies being introduced through UE2 (see A/72/397). The Committee was further informed that the re-organization of functions proposed in the tenth progress report continued a three-year effort to create a balanced grade structure that was distributed among the different functional and technical areas depending on the underlying complexity (A/73/389, para. 127).

26. With regard to the mainstreaming of Umoja support, the Advisory Committee was informed, upon enquiry, that the Umoja team had been gradually downsized since 2016 and streamlined into fewer integrated teams for greater consolidation of SAP business and technical functions. The Committee was also informed that the Secretariat expected that core team of staff to be eventually mainstreamed for continuous improvements and ongoing support of Umoja, as a part of the sustainable business model of the Organization. The Committee was further informed that the initial structure and staffing of the future project team after full implementation of the project by the end of 2019, based on the continuing re-organization of functions, would be presented to the General Assembly in the next progress report of the

Secretary-General. The Committee notes that the Secretary-General is not proposing a downsizing of the Umoja project team in 2019. **The Committee recommends that the General Assembly request the Secretary-General to provide a detailed plan for the mainstreaming of the Umoja team into the Secretariat in his next progress report, for consideration and decision by the Assembly.**

## G. Risk management

27. Information on the risks facing the project and mitigation steps being taken are provided in paragraphs 128 to 139 of the tenth progress report of the Secretary-General. In its seventh annual progress report, the Board of Auditors also outlines certain risks to the timely implementation of projects (A/73/169, para. 136). The key risks presented in the report of the Secretary-General include: (a) change management risks, given the scale and scope of UE2 functions, which impact many users who have not used Umoja before; (b) implementation risks, given that the Secretariat is the only SAP customer for some of the UE2 solutions being deployed; (c) risks related to the technical complexity of the solution being deployed and the expanded number of new SAP products being used, the number of non-SAP products being integrated/interfaced into the Umoja solution and the different ways in which Umoja will be accessed by different user groups based on functionality; (d) the number of UE2 solutions being developed concurrently to meet aggressive timelines, many of which have to be integrated for end-to-end process automation; (e) the concurrent delivery of Umoja with the reprofiling of resources to build sustainable capacity; (f) the need for process owners to support UE2 development and deployment concurrently with a demand for continuous improvements and support for functionality already deployed; and (g) the lack of funding for implementing departments for their deployment activities. The Secretary-General further states that the ongoing negotiations with the software vendor present risks relating to the timely deployment of supply chain management software and future support for human capital management/payroll software, and that changes to the licensing metrics for existing software products also pose financial risks that have to be managed.

28. The Secretary-General indicates that, in response to the request made by the General Assembly in section XXI, paragraph 11, of its resolution 72/262 A and comments made by the Board of Auditors, an independent consulting firm was engaged to assess potential gaps in the Secretariat's readiness for Umoja deployments. The consulting firm made recommendations based on industry leading practices and lessons learned from the implementation of other comparably large and complex enterprise resource planning projects, including the importance of deploying UE2 slowly and focusing strategically on functionality critical to the reform agenda (A/73/389, para. 139).

29. **The Advisory Committee recognizes the multiple risks facing the project as well as the need for a cautious approach and appropriate level of business readiness. The Committee also stresses the need for an effective risk management strategy, with continual review and analysis of risks, as well as continual assessment of the adequacy of the mitigation measures and timely adaptation of the strategies in place, as required. The Committee further emphasizes the need for strong project planning and proactive measures to address challenges and risks so as to avoid any further slippages and ensure that the project remains on track to complete full deployment of all UE2 projects by the end of 2019.**

## H. Resource requirements for 2018–2019

30. The estimated requirements for 2018–2019 are summarized by category of expenditure in table 5 of the tenth progress report, and amount to $104,764,800 for 2018–2019, comprising projected requirements of $49,628,400 and $55,136,400 for 2018 and 2019, respectively. Taking into account the resources approved for 2018–2019 in the amount of $62,062,600 and the unused balance from approved resources at the end of 2017 in the amount of $27,186,600, the additional resources requested for 2019 amount to $15,515,600. Table 6 of the report provides a breakdown of the additional resource requirements proposed, which mainly include: (a) $11,259,300 for contractual services (A/73/389, paras. 147–150); and (b) $2,969,000 for other staff (ibid., paras. 145–146).

31. Upon enquiry, it was confirmed to the Advisory Committee that the additional requirements of $15,515,600 proposed for 2019 would be sufficient to complete the project in 2019.

# IV. Conclusions and recommendations

32. The actions requested of the General Assembly are set out in paragraph 157 of the tenth progress report. **Subject to its comments and recommendations in the paragraphs above, the Advisory Committee recommends that the General Assembly:**

(a) **Take note of the progress made in the implementation of Umoja since the issuance of the ninth progress report;**

(b) **Approve the resource requirements of the project until 31 December 2019, as presented in table 5 of the report, and based on the reorganization presented in section VII of the report;**

*Programme budget*

(c) **Approve an amount of $2,138,800 under the programme budget for the biennium 2018–2019 under component 1, Office of the Under-Secretary-General, of section 29A, Department of Management Strategy, Policy and Compliance, representing the additional regular budget share for the Umoja project costs until 31 December 2019;**

*Support account for peacekeeping operations*

(d) **Note that resource requirements in the amount of $9,757,200 will be included in the subsequent requirements for the support account for peacekeeping operations for the financial period from 1 July 2019 to 30 June 2020;**

*Extrabudgetary resources*

(e) **Note that requirements in the amount of $3,619,600 will be funded from extrabudgetary resources in the financial period from 1 January to 31 December 2019.**